INVITATION TO BID NO: 10-R-2215557

STATE OF ALABAMA

DEPTARTMENT OF FINANCE
DIVISION OF PURCHASING

INVITATION TO BID

REQ. AGENCY	: 012013 ALDOT - 3RD DIV
AGENCY REQ. NO.	: 301-030089
T-NUMBER	:
DATE ISSUED	: 01/25/10
VENDOR NO.	:
VENDOR PHONE NO.	:
SNAP REQ. NO.	: 1432659
BUYER NAME	: RAY BRESSLER
BUYER PHONE NO.	: (334) 242-4670-
PURCHASING PHONE NO	: (334) 242-7250

FOR: GENERATOR 150KW DISTRICT 5
KATHY SNOW

BID MUST BE RECEIVED BEFORE:
DATE: 02/11/10 TIME: 5:00 PM

BIDS WILL BE PUBLICLY OPENED:
DATE: 02/12/10 TIME: 10:00 PM

TO BE COMPLETED BY VENDOR

INFORMATION IN THIS SECTION SHOULD BE PROVIDED, AS APPROPRIATE. BID RESPONSE MUST BE IN INK OR TYPED WITH ORIGINAL SIGNATURE AND NOTARIZATION.

1. DELIVERY: CAN BE MADE _____ DAYS OR _____ WEEKS AFTER RECEIPT OF ORDER

2. TERMS: _____(DISCOUNTS ARE TAKEN WITHOUT REGARD TO DATE OF PAYMENT.)

3. PRICE VALID FOR ACCEPTANCE WITHIN _____ DAYS.

4. VENDOR QUOTATION REFERENCE NUMBER, IF ANY: _____
(THIS NUMBER WILL APPEAR ON THE PURCHASE ORDER.)

5. E-MAIL ADDRESS: _____

INTERNET WEBSITE: _____

6. GENERAL CONTRACTOR'S LICENSE NO: _____

TYPE OF G.C. LICENSE: _____

***** IMPORTANT NOTE: *****
BIDDERS MUST COMPLY WITH ALL "BID RESPONSE INSTRUCTIONS" ON PAGE 2, TO INCLUDE ITEM 7 - COPY REQUIREMENT.

RETURN INVITATION TO BID:

US MAIL

STATE OF ALABAMA
DEPARTMENT OF FINANCE
DIVISION OF PURCHASING
P O BOX 302620
MONTGOMERY, AL 36130-2620

COURIER

STATE OF ALABAMA
DIVISION OF PURCHASING
RSA UNION BUILDING
100 N. UNION ST., SUITE 192
MONTGOMERY, AL 36104

SIGNATURE AND NOTARIZATION REQUIRED

I HAVE READ THE ENTIRE BID AND AGREE TO FURNISH EACH ITEM OFFERED AT THE PRICE QUOTED. I HERBY AFFIRM I HAVE NOT BEEN IN ANY AGREEMENT OR COLLUSION AMONG BIDDERS IN RESTRAINT OF FREEDOM OF COMPETITION BY AGREEMENT TO BID AT A FIXED PRICE OR TO REFRAIN FROM BIDDING.

SWORN TO AND

SUBSCRIBED BEFORE ME THIS

_____ DAY OF _____

_____
NOTARY PUBLIC

TERM EXP: _____

_____
FEIN OR SSN

_____
COMPANY NAME

_____
MAIL ADDRESS

_____
CITY, STATE, ZIP

_____
PHONE INCLUDING AREA CODE

_____
AUTHORIZED SIGNATURE (INK)

_____
TYPE/PRINT AUTHORIZED NAME

_____
TITLE

_____
TOLL FREE NUMBER

_____
FAX NUMBER

AUTHORITY:
THE DEPARTMENT OF FINANCE CODE OF ADMINISTRATIVE PROCEDURE, CHAPTER 355-4-1 EFFECTIVE DECEMBER 20, 2001 IS INCORPORATED BY REFERENCE AND MADE A PART OF T HIS DOCUMENT. TO RECEIVE A COPY CALL (334)242-7250, OR OUR WEBSITE WWW.PURCHASING.ALABAMA.GOV .

INFORMATION AND ASSISTANCE TO MINORITY AND WOMEN-OWNED BUSINESSES IN ACQUIRING M/WBE CERTIFICATION MAY BE OBTAINED FROM THE OFFICE OF MINORITY BUSINESS ENTERPRISE, 1-800-447-4191.

BID (ITB) RESPONSE INSTRUCTIONS REV: 01/14/10

1. TO SUBMIT A RESPONSIVE BID, READ THESE INSTRUCTIONS, ALL TERMS, CONDITIONS AND SPECIFICATIONS.

2. BID ENVELOPES/PACKAGES/BOXES MUST BE IDENTIFIED ON FRONT, PREFERABLY LOWER LEFT CORNER AND BE VISIBLE WITH THE BID NUMBER AND OPENING DATE. EACH INDIVIDUAL BID (IDENTIFIED BY A UNIQUE BID NUMBER) MUST BE SUBMITTED IN A SEPARATE ENVELOPE. RESPONSES TO MULTIPLE BID NUMBERS SUBMITTED IN THE SAME ENVELOPE/COURIER PACKAGE, THAT ARE NOT IN SEPARATE ENVELOPES PROPERLY IDENTIFIED, WILL BE REJECTED. THE DIVISION OF PURCHASING DOES NOT ASSUME RESPONSIBILITY FOR LATE BIDS FOR ANY REASON INCLUDING THOSE DUE TO POSTAL, OR COURIER SERVICE. BID RESPONSES MUST BE IN THE DIVISION OF PURCHASING OFFICE PRIOR TO THE "RECEIVE DATE AND TIME" INDICATED ON THE BID.

3. BID RESPONSES (PAGE 1, PRICE SHEET AND ADDENDUMS (WHEN SIGNATURE IS REQUIRED)) MUST BE IN INK OR TYPED ON THIS DOCUMENT. OR EXACT FORMAT WITH SIGNATURES BEING HANDWRITTEN ORIGINALS IN INK (PERSON SIGNING BID, NOTARY, AND NOTARY EXPIRATION), OR THE BID WILL BE REJECTED. UNLESS INDICATED IN THE BID, ALL PRICE PAGES MUST BE COMPLETED AND RETURNED. IF AN ITEM IS NOT BEING BID, IDENTIFY IT AS NB (NO-BID). PAGES SHOULD BE SECURED. THE DIVISION OF PURCHASING DOES NOT ASSUME RESPONSIBILITY FOR MISSING PAGES. FAXED BID RESPONSES WILL NOT BE ACCEPTED.

4. THE UNIT PRICE ALWAYS GOVERNS REGARDLESS OF THE EXTENDED AMOUNT. A UNIT PRICE CHANGE ON A LINE MUST BE INITIALED BY THE PERSON SIGNING THE BID, OR THAT LINE WILL BE REJECTED. THIS INCLUDES A CROSS-OUT, STRIKE-OVER, INK-OVER, WHITE-OUT, ERASURE, OR ANY OTHER METHOD CHANGING THE PRICE.

5. A "NO BID" MUST BE RETURNED TO REMAIN ON A CLASS/SUBCLASS. RETURN PAGE 1 OR NOTIFICATION PAGE MARKED "NO-BID". IDENTIFY IT ON THE ENVELOPE AS A "NO-BID". FAILING TO RESPOND TO 3 ITB'S WITHIN THE SAME CLASS/SUBCLASS WILL AUTOMATICALLY PURGE THE VENDOR FROM THAT CLASS/SUBCLASS. RESPONDING WITH 6 "NO-BIDS" WITHIN THE SAME CLASS/SUBCLASS WILL AUTOMATICALLY PURGE THE VENDOR FROM THAT CLASS/SUBCLASS. A "NO-BID" RECEIVED LATE IS CONSIDERED A NO RESPONSE.

6. THE DIVISION OF PURCHASING IS NOT RESPONSIBLE FOR MISINTERPRETATION OF DATA FAXED FROM THIS OFFICE.

7. THE DIVISION OF PURCHASING REQUIRES AN ORIGINAL AND A MINIMUM OF ONE COMPLETE EXACT COPY (TO INCLUDE SIGNATURE AND NOTARY) OF THE INVITATION-TO-BID RESPONSE. THE ORIGINAL AND THE COPY SHOULD BE SUBMITTED TOGETHER AS A BID PACKAGE. FAILURE TO MARK RESPONSES AS "ORIGINAL" AND/OR "COPY" COULD RESULT IN THE ENTIRE BID RESPONSE BEING REJECTED.

8. AN IMPROPERLY SUBMITTED BID, LATE BID, OR BID THAT IS CANCELLED ON OR BEFORE THE OPENING DATE WILL BE HELD FOR 90 DAYS AND THEN DESTROYED. THE BID MUST BE RETRIEVED DURING REGULAR WORK HOURS, MONDAY - FRIDAY, EXCEPT STATE HOLIDAYS. AFTER THE BID IS DESTROYED, THE DIVISION OF PURCHASING ASSUMES NO RESPONSIBILITY FOR THE DOCUMENT.

DISQUALIFIED/CANCELLED BID

BIDS THAT ARE IMPROPERLY SUBMITTED OR RECEIVED LATE WILL BE A RESPONSE FOR RECORD, BUT WILL NOT BE RETURNED OR A NOTIFICATION MAILED.

THE FOLLOWING IS A PARTIAL LIST WHEREBY A BID RESPONSE WILL BE DISQUALIFIED:

BID NUMBER NOT ON FACE OF ENVELOPE/COURIER PACKAGE/BOX
RESPONSES TO MULTIPLE BID NUMBERS IN SAME ENVELOPE NOT PROPERLY IDENTIFIED
BID RECEIVED LATE
BID NOT SIGNED/NOT ORIGINAL SIGNATURE
BID NOT NOTARIZED/NOT ORIGINAL SIGNATURE OF NOTARY AND/OR NO NOTARY EXPIRATION
NOTARIZED OWN SIGNATURE
REQUIRED INFORMATION NOT SUBMITTED WITH BID
FAILURE TO SUBMIT THE ORIGINAL BID AND A COMPLETE EXACT COPY

CERTIFICATION PURSUANT TO ACT NO. 2006-557

ALABAMA LAW (SECTION 41-4-116,CODE OF ALABAMA 1975) PROVIDES THAT EVERY BID SUBMITTED AND CONTRACT EXECUTED SHALL CONTAIN A CERTIFICATION THAT THE VENDOR, CONTRACTOR, AND ALL OF ITS AFFILIATES THAT MAKE SALES FOR DELIVERY INTO ALABAMA OR LEASES FOR USE IN ALABAMA ARE REGISTERED, COLLECTING, AND REMITTING ALABAMA STATE AND LOCAL SALES, USE, AND/OR LEASE TAX ON ALL TAXABLE SALES AND LEASES INTO ALABAMA. BY SUBMITTING THIS BID, THE BIDDER IS HEARBY CERTIFYING THAT THEY ARE IN FULL COMPLIANCE WITH ACT NO. 2006-557, THEY ARE NOT BARRED FROM BIDDING OR ENTERING INTO A CONTRACT PURSUANT TO 41-4-116, AND ACKNOWLEDGES THAT THE AWARDING AUTHORITY MAY DECLARE THE CONTRACT VOID IF THE CERTIFICATION IS FALSE.

INTENT TO AWARD

EFFECTIVE MAY 1, 2008, THE STATE OF ALABAMA - DIVISION OF PURCHASING WILL ISSUE AN 'INTENT TO AWARD' BEFORE A FINAL AWARD IS MADE. THE 'INTENT TO AWARD' WILL CONTINUE FOR A PERIOD OF FIVE (5) CALENDAR DAYS, AFTER WHICH A PURCHASE ORDER WILL BE PRODUCED. UPON FINAL AWARD, ALL RIGHTS TO PROTEST ARE FORFEITED. A DETAILED EXPLANATION OF THIS PROCESS MAY BE REVIEWED IN THE ALABAMA ADMINISTRATIVE CODE - CHAPTER 355-4-1(14).

ALTERNATE BID RESPONSE

UNLESS STATED ELSEWHERE IN THIS INVITATION-TO-BID (ITB) THE STATE OF ALABAMA WILL ACCEPT AND EVALUATE ALTERNATE BID SUBMITTALS ON ANY ITB'S. ALTERNATE BID RESPONSES WILL BE EVALUATED ACCORDING TO THE REQUIREMENTS AS ALL OTHER RESPONSES TO THIS ITB.

INTERNET WEBSITE LINK'S

INTERNET AND/OR WEBSITE LINKS WILL NOT BE ACCEPTED IN BID RESPONSES AS A MEANS TO SUPPLY ANY REQUIREMENTS STATED IN THIS ITB (INVITATION-TO-BID).

PRODUCT DELIVERY, RECEIVING AND ACCEPTANCE

IN ACCORDANCE WITH THE UNIVERSAL COMMERCE CODE (CODE OF ALABAMA, TITLE 7), AFTER DELIVERY, THE STATE OF ALABAMA HAS THE RIGHT TO INSPECT ALL PRODUCTS BEFORE ACCEPTING. THE STATE WILL INSPECT PRODUCTS IN A REASONABLE TIMEFRAME. SIGNATURE ON A DELIVERY DOCUMENT DOES NOT CONSTITUTE ACEPTANCE BY THE STATE. THE STATE WILL ACCEPT PRODUCTS ONLY AFTER SATISFACTORY INSPECTION.

SALES TAX EXEMPTION

PURSUANT TO THE CODE OF ALABAMA, 1975, TITLE 40-23-4 (A) (11), THE STATE OF ALABAMA IS EXEMPT FROM PAYING SALES TAX. AN EXEMPTION LETTER WILL BE FURNISHED UPON REQUEST.

INVOICES

INQUIRIES CONCERNING PAYMENT AFTER INVOICES HAVE BEEN SUBMITTED ARE TO BE DIRECTED TO THE RECEIVING AGENCY, NOT THE DIVISION OF PURCHASING

BID RESPONSES AND BID RESULTS

UNEVALUATED BID RESPONSES (NOT BID RESULTS) ARE AVAILABLE ON OUR WEB SITE AT WWW.PURCHASING.ALABAMA.GOV. BID RESULTS WILL BE MADE AVAILABLE FOR REVIEW IN THE DIVISION OF PURCHASING OFFICE, BUT ONLY AFTER THE BID HAS BEEN AWARDED. WE DO NOT FAX OR MAIL COPIES OF BID RESULTS. IF A VENDOR WISHES TO REVIEW BID RESULTS IN OUR OFFICE, THEY SHOULD FAX THEIR REQUEST TO REVIEW THE BID TWO DAYS IN ADVANCE TO THE "BID REVIEW CLERK" AT (334) 242-4419. BE SURE TO REFERENCE THE BID NUMBER.

FOREIGN CORPORATION - CERTIFICATE OF AUTHORITY

ALABAMA LAW PROVIDES THAT A FOREIGN CORPORATION (AN OUT-OF-STATE COMPANY/FIRM) MAY NOT TRANSACT BUSINESS IN THE STATE OF ALABAMA UNTIL IT OBTAINS A CERTIFICATE OF AUTHORITY FROM THE SECRETARY OF STATE. SECTION 10-2B-15.01, CODE OF ALABAMA 1975. TO OBTAIN FORMS FOR A CERTIFICATE OF AUTHORITY, CONTACT THE SECRETARY OF STATE, CORPORATIONS DIVISION, (334) 242-5324. THE CERTIFICATE OF AUTHORITY DOES NOT KEEP THE VENDOR FROM SUBMITTING A BID.

BID IDENTIFICATION

REFERENCE PAGE 2, ITEM 2. DUE TO THE POSTAL SERVICE PUTTING BAR CODE LABELS ON ENVELOPES, IT CONCEALS THE BID NUMBER AND DATE IF THE VENDOR HAS WRITTEN THEM OTHER THAN THE LOWER LEFT CORNER, THEREFORE THE BID WOULD BE REJECTED FOR NOT BEING PROPERLY IDENTIFIED.

AWARD:
THE AWARD SHALL BE MADE TO THE LOWEST RESPONSIBLE BIDDER MEETING ALL SPECIFICATIONS.

ASSIGNMENT OF CONTRACT:
TO ASSIGN, SUBLET OR TRANSFER ANY CONTRACT RESULTING FROM THIS SOLICITATION, THE VENDOR'S WRITTEN REQUEST MUST BE APPROVED BY THE STATE PURCHASING DIRECTOR.

DELIVERY TIME FRAME:
ALL ITEMS ORDERED MUST BE DELIVERED TO THE "SHIP TO" ADDRESS SHOWN ON THE P.O. WITHIN THIRTY (30) DAYS OF VENDOR'S RECEIPT OF ORDER.

DELIVERY AND INSTALLATION:
BID IS TO INCLUDE COST OF TRANSPORTATION, UNLOADING, INSTALLATION AND REMOVAL OF DEBRIS. DROP SHIPMENTS ARE NOT ACCEPTABLE. TITLE WILL CHANGE UPON RECEIPT OF SATISFACTORY DELIVERY AND INSTALLATION.

F.O.B. DESTINATION:
F.O.B. DESTINATION IS THE LOCATION WHERE MERCHANDISE IS DELIVERED AND UNLOADED ON A RECEIVING DOCK, IF AVAILABLE, TO ANY STATE OR LOCAL GOVERNMENT AGENCY AND THE CHANGE OF TITLE TAKES PLACE. THE VENDOR IS LIABLE FOR FREIGHT CHARGES, RISK OF LOSS OR DAMAGE TO THE MERCHANDISE UP TO THE DESTINATION.

FREIGHT:
BID IS F.O.B. DESTINATION. ANY FREIGHT CHARGES MUST BE INCLUDED IN THE BID PRICES.

NON-APPROPRIATION OF FUNDS:
CONTINUATION OF ANY AGREEMENT BETWEEN THE STATE AND A BIDDER BEYOND A FISCAL YEAR IS CONTINGENT UPON CONTINUED LEGISLATIVE APPROPRIATION OF FUNDS FOR THE PURPOSE OF THIS BID AND ANY RESULTING AGREEMENT. NON-AVAILABILITY OF FUNDS AT ANY TIME SHALL CAUSE ANY AGREEMENT TO BECOME VOID AND UNENFORCEABLE AND NO LIQUIDATED DAMAGES SHALL ACCRUE TO THE STATE AS A RESULT. THE STATE WILL NOT INCUR LIABILITY BEYOND THE PAYMENT OF ACCRUED AGREEMENT PAYMENT.

PRORATION:
ANY PROVISION OF A CONTRACT RESULTING FROM THIS BID TO THE CONTRARY NOTWITHSTANDING, IN THE EVENT OF FAILURE OF THE STATE TO MAKE PAYMENT HEREUNDER AS A RESULT OF PARTIAL UNAVAILABILITY, AT THE TIME SUCH PAYMENT IS DUE, OF SUCH SUFFICIENT REVENUES OF THE STATE TO MAKE SUCH PAYMENT (PRORATION OF APPROPRIATED FUNDS FOR THE STATE HAVING BEEN DECLARED BY THE GOVERNOR PURSUANT TO SECTION 41-4-90 OF THE CODE OF ALABAMA 1975), THE CONTRACTOR SHALL HAVE THE OPTION, IN ADDITION TO THE OTHER REMEDIES OF THE CONTRACT, OF RENEGOTIATING THE CONTRACT (EXTENDING OR CHANGING PAYMENT TERMS OR AMOUNTS) OR TERMINATING THE CONTRACT.

QUALITY OF MATERIALS AND LABOR:
MATERIALS USED THAT ARE NOT OTHERWISE SPECIFIED SHALL BE THE KIND AND QUALITY CONSISTENT WITH THE TRADE PRACTICE FOR SUCH WORK AND SHALL COMPLY WITH ALL LOCAL CODES. ALL LABOR SHALL BE WELL EXPERIENCED IN THIS TYPE WORK AND IT SHALL BE COMPLETED IN A PROFESSIONAL MANNER.

DESCRIPTIVE LITERATURE:
THE BRANDS AND MODEL NUMBERS REFERENCED PROVIDE A LEVEL OF QUALITY, AND UNLESS OTHERWISE SPECIFIED, ARE NOT RESTRICTIVE. VENDORS BIDDING ALTERNATE ITEMS MUST PROVIDE COMPLETE DESCRIPTIVE/TECHNICAL LITERATURE FOR CONSIDERATION AND EVALUATION WITH THEIR BID, AND WITH THE BID COPY PER ITEM NUMBER 7 ON PAGE 2. REFERENCE TO LITERATURE WITH A PREVIOUS BID WILL NOT SATISFY THIS REQUIREMENT. FAILURE TO PROVIDE THE REQUIRED LITERATURE WILL RESULT IN THE REJECTION OF THE BID. PHYSICAL INSPECTION AND OPERATIONAL EVALUATION MAY ALSO BE REQUIRED WITHOUT COST OR OBLIGATION TO THE STATE OF ALABAMA.

NEW EQUIPMENT:
ALL EQUIPMENT MUST BE NEW AND UNUSED AND ACCEPTABLE BY THE ORIGINAL EQUIPMENT MANUFACTURER FOR THEIR MAINTENANCE.

REQUIRED DOCUMENTS:
A COPY OF THE MAINTENANCE/OPERATIONS MANUAL, MANUFACTURER'S WARRANTY AND A COMPLETE REPLACEMENT PARTS LIST IS REQUIRED WITH EACH ITEM.

BLANK LINES:
TO EVALUATE THE BID IN AN EFFICIENT MANNER, THE VENDOR SHOULD FILL-IN ALL BLANK LINES APPLICABLE TO A SPECIFIC COMMODITY DESCRIPTION.

REQUESTED INFORMATION:
ANY ADDITIONAL INFORMATION REQUESTED FROM A VENDOR MUST BE FURNISHED WITHIN TEN (10) DAYS FROM RECEIPT OF REQUEST.

PRICE SHEET

VENDOR NAME :

VENDOR NUMBER: -

ITB NO. : 10-R-2215557 PAGE 6

INVITATION TO BID

OPEN DATE : 02/12/10 TIME: 10:00 PM

RETURN DATE: 02/11/10 TIME: 5:00 PM

LINE NO.	COMMODITY/SERVICE DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
	UNLESS SPECIFIED OTHERWISE BELOW: SHIP TO: 012019 / 012M01 ALDOT - 3RD DIV DIST 5 THIRD DIVISION DISTRICT FIVE P.O. BOX 940 EXIT 231 N. @ I-65 & US31 CALERA AL 35040				
00001	COMMODITY CODE: 285-37-089946 GENERATOR, 150KW NATURAL GAS GENERAC ONE 400 AMP AUTOMATIC TRANSFER SWITCH & ONE 200 AMP AUTOMATIC TRANSFER SWITCH THIS UNIT SHALL BE OF THE LATEST MFG MODEL ON THE MARKET. BID PRICE SHALL INCLUDE ALL MATERIAL AND LABOR TO INSTALL AND MAKE UNIT OPERATIONAL. THIS UNIT WILL BE INSTALLED AT ALDOT 3RD DIV DISTRICT 5 EXIT 231 N. @ 1-65 & US 31 CALERA, AL 35040 EACH POTENTIAL BIDDER MUST DO AN ON SIGHT INSPECTION AND HAVE SIGNED DOCUMENTATION BY A REPRESENTATIVE OF THE ALABAMA DEPT OF TRANSPORTATION THAT SAID VISIT TOOK PLACE. FAILURE TO PROVIDE SUCH DOCUMENTATIION WILL MAKE THE BID PACKAGE INVALID. CONTACT PERSON(S) FOR INSPECTION OF SITE AND/ OR TECHNICAL QUESTIONS: JOHN GARY RAY 205-668-0173 W 205-288-7259 C CARLTON OWENS 205-581-5676 W 205-438-8647 C SEE PROVIDED SPECIFICATIONS MFR_____MOD_____ GENERAC QT150 OR EQUAL READ ENTIRE BID AND FOLLOW BID INSTRUCTIONS ON PAGE 2 INCLUDING THE RETURN OF ORIGINAL BID AND ONE COMPLETE EXACT COPY OF ORIGINAL BID TO PURCHASING TO BE CONSIDERED FOR AWARD.	1	EA	_____	_____

PAGE TOTAL _____

BID TOTAL _____

10-R-2215557

1432659

301-030089

Electric Power System Specification

Project Name:

Calera - Generator

Accepting Authority:

Carlton W. Owens, Equipment Maintenance
Superintendent
1020 Bankhead Hwy. W.
Birmingham, AL 35202

Presented By:

Carlton W. Owens, Equipment Maintenance
Superintendent
1020 Bankhead Hwy. W.
Birmingham, AL 35202

Bid Due Date:

(Date)

Specification Development Date:

Tuesday, July 21, 2009

1. GENERAL

1.1. DESCRIPTION OF SYSTEM

1.1.1. Provide a standby power system to supply electrical power in event of failure of normal supply, consisting of a liquid cooled engine, an AC alternator and system controls with all necessary accessories for a complete operating system, including but not limited to the items as specified hereinafter.

1.2. REQUIREMENTS OF REGULATORY AGENCIES

1.2.1. An electric generating system, consisting of a prime mover, generator, governor, coupling and all controls, must have been tested, as a complete unit, on a representative engineering prototype model of the equipment to be sold.

1.2.2. The generator set(s) must conform to applicable NFPA standards.

1.2.3. The generator set(s) must be available with the Underwriters Laboratories listing (UL2200) for a stationary engine generator assembly.

1.2.4. The transfer switch(es) must be UL listed for use in emergency systems.

1.2.5. The generator set(s) must meet EPA federal emission guidelines for stationary standby power generation.

1.3. MANUFACTURER QUALIFICATIONS

1.3.1. This system shall be supplied by Generac Power Systems® or an approved equal who has been regularly engaged in the production of engine-alternator sets, automatic transfer switches, and associated controls for a minimum of twenty years, thereby identifying one source of supply and responsibility.

1.3.2. To be classified as a manufacturer, the builder of the generator set must manufacture, at minimum, engines or alternators.

1.3.3. The manufacturer shall have printed literature and brochures describing the standard series specified, not a one of a kind fabrication.

2. ENGINE-GENERATOR SET

2.1. Engine

2.1.1. The prime mover shall be a liquid cooled, natural gas fueled, naturally aspirated engine of 4-cycle design. It will have 10 cylinders with a minimum displacement of 6.8 liters (417 cubic inches), with a minimum rating of 224 BHP. The unit requires a minimum rated output of 150 kw at an operating speed of 3600 RPM.

2.1.2. The engine is to be cooled with a unit mounted radiator, fan, water pump, and closed coolant recovery system providing visual diagnostic means to determine if the system is operating with a normal engine coolant level. The radiator shall be designed for operation in 122 degrees f, 50 degrees c ambient temperature.

2.1.3. The intake air filter(s) with replaceable element must be mounted on the unit. Full pressure lubrication shall be supplied by a positive displacement lube oil pump. The engine shall have a replaceable oil filter(s) with internal bypass and replaceable element(s). Engine coolant and oil drain extensions, equipped with pipe plugs, must be provided to outside of the mounting base for cleaner and more convenient engine servicing. A fan guard must be installed for personnel safety.

2.1.4. The engine shall have a battery charging DC alternator with a transistorized voltage regulator. Remote 2-wire starting shall be by a solenoid shift, electric starter.

2.1.5. The engine fuel system shall be designed for primary operation on natural gas having a BTU content of 1000 BTU per cubic foot delivered to the unit in a vapor state. A carburetor, secondary regulator, fuel lock-off solenoid and all piping must be installed at the point of manufacturing, terminating at a single pipe opening external to the mounting base.

2.1.6. The engine shall have (a) unit mounted, thermostatically controlled water jacket heater(s) to aid in quick starting. The wattage shall be as recommended by the manufacturer. The contractor shall provide proper branch circuit from normal utility power source.

2.1.7. Sensing elements to be located on the engine for low oil pressure shutdown, high coolant temperature shutdown, low coolant level shutdown, overspeed shutdown and overcrank shutdown. These sensors are to be connected to the control panel using a wiring harness with the following features: wire number labeling on each end of the wire run for easy identification, each sensor connection shall be sealed to prevent corrosion and all wiring to be run in flexible conduit for protection from the environment and any moving objects.

2.1.8. Provide the following items installed at the factory:

2.1.8.1. The manufacturer shall supply a catalytic muffler and air/fuel ratio controller. The catalytic muffler must be part of the engine exhaust system and completely installed and tested at the factory.

2.1.8.2. The manufacturer shall supply its recommended stainless steel, flexible connector to couple the engine exhaust manifold to the exhaust system.

2.1.9. The following equipment is to be provided by the engine-generator set manufacturer and shipped loose with the unit:

2.1.9.1. The manufacturer will supply its recommended flexible fuel line to connect the engine to the external natural gas fuel supply line. On stationary applications the fuel line shall match the fuel fitting on the unit and have braided stainless steel covering with brass fittings.

2.1.10. Engine speed shall be controlled by isochronous governor with no change in alternator frequency from no load to full load. Steady state regulation is to be 0.25%.

2.1.11. One step load acceptance shall be 100% of engine-generator set nameplate rating and meet the requirements of NFPA 110 paragraph 7.13.7

2.1.12. The generator system shall support generator start-up and load transfer within 10 seconds.

2.2. ALTERNATOR

2.2.1. The alternator shall be a 4 pole revolving field type, 12 lead, wired for 120/208 vac 3 phase, 60 hz, rated at 150 kw with a permanent magnet driven exciter. Photosensitive components will not be permitted in the rotating exciter. The stator shall be gear drive connected to the engine to ensure permanent alignment. The generator shall meet temperature rise standards for Class "H" insulation, operate within Class "F" standards for extended life. All leads must be extended into an AC connection panel. The alternator shall be protected by internal thermal overload protection and an automatic reset field circuit breaker.

2.2.2. One step load acceptance shall be 100% of engine-generator set nameplate rating and meet the requirements of NFPA 110 paragraph 5-13.2.6. The generator set and regulator must sustain at least 300%

short circuit current for 10 seconds during 3 phase fault.

2.2.3. A NEMA 1 panel that is an integral part of the generator set must be provided to allow the installer a convenient location in which to make electrical output connections. An fully rated, isolated neutral must be included by the generator set manufacturer to insure proper sizing.

2.2.4. The electric plant (engine and alternator) shall be mounted with internal vibration isolation onto a welded steel base. External vibration isolation shall not be required for normal pad mounted applications.

2.2.5. Provide the following items installed at the factory:

2.2.5.1. A main line circuit breaker carrying the UL mark shall be factory installed. The breaker shall be rated per the manufacturer's recommendations. The line side connections are to be made at the factory. Output lugs shall be provided for load side connections. A system utilizing manual reset field circuit breakers and current transformers is unacceptable.

2.3. CONTROLS

2.3.1. The generator control system shall be a fully integrated microprocessor based control system for standby emergency engine generators meeting all requirements of NFPA 110 level 1.

2.3.2. The generator control system shall be a fully integrated control system enabling remote diagnostics and easy building management integration of all generator functions. The generator controller shall provide integrated and digital control over all generator functions including: engine protection, alternator protection, speed governing, voltage regulation and all related generator operations. The generator controller must also provide seamless digital integration with the engine's electronic management system if so equipped. Generator controller's that utilize separate voltage regulators and speed governors or do not provide seamless integration with the engine management system are considered less desirable.

2.3.3. Communications shall be supported with building automation via the Modbus protocol without network cards or protocol exchangers. Optional internet and intranet connectivity shall be available.

2.3.4. The control system shall provide an environmentally sealed design including encapsulated circuit boards and sealed automotive style plugs for all sensors and circuit board connections. The use of non-encapsulated boards, edge cards, and pc ribbon cable connections are considered unacceptable.

2.3.5. Circuit boards shall utilize surface mount technology to provide vibration durability. Circuit boards that utilize large capacitors or heat sinks must utilize encapsulation methods to securely support these components.

2.3.6. A predictive maintenance algorithm that alarms when maintenance is required. The controller shall have the capability to call out to the local servicing dealer when maintenance is required.

2.3.7. Diagnostic capabilities should include time-stamped event and alarm logs, ability to capture operational parameters during events, simultaneous monitoring of all input or output parameters, callout capabilities, support for multi-channel digital strip chart functionality and .1msec data logging capabilities.

2.3.8. The control system shall provide pre-wired customer use I/O: 4 contact inputs, 2 analog inputs, 4 relay outputs, and communications support via RS232, RS485, and an optional modem. Customer I/O shall be software configurable providing full access to all alarm, event, data logging, and shutdown functionality. In addition, custom ladder logic functionality shall be supported to provide application support flexibility. The ladder logic function shall have access to all the controller inputs and customer assignable outputs.

2.3.9. The control panel will display all user pertinent unit parameters including:
- Engine and alternator operating conditions
- Oil pressure and optional oil temperature
- Coolant temperature and level alarm
- Fuel level (where applicable)
- Engine speed
- DC battery voltage
- Run time hours
- Generator voltages, amps, frequency, kilowatts, and power factor
- Alarm Status
- Current alarm(s) condition per NFPA 110 level 1
- Alarm Log of last twenty alarm events (date and time stamped)

2.3.10. For system reliability and security concerns, access to and manipulation of the internal operating parameters and alarm limits shall be conducted via password protected PC based software by trained

personnel System configuration support shall be provided locally or remotely by the manufacturers servicing representatives.

2.3.11. The following equipment is to be installed at the engine-generator set manufacturer's facility:

2.3.11.1. A 100 dbA alarm horn operated on 12 VDC through the generator common alarm relay shall be supplier by the engine/generator manufacturer.

3. AUTOMATIC TRANSFER SWITCH

3.1. GENERAL

3.1.1. The automatic transfer switch shall be furnished by the manufacturer of the engine-generator set so as to maintain system compatibility and local service responsibility for the complete emergency power system. It shall be listed by Underwriter's Laboratory, Standard 1008 with fuse or circuit breaker protection. Representative production samples of the transfer switch supplied shall have demonstrated through tests the ability to withstand at least 10,000 mechanical operation cycles. One operation cycle is the electrically operated transfer from normal to emergency and back to normal. Wiring must comply with NEC table 312.6. The manufacturer shall furnish schematic and wiring diagrams for the particular automatic transfer switch and a typical wiring diagram for the entire system.

3.2. RATINGS & PERFORMANCE

3.2.1. The automatic transfer switch shall be a 3 pole design rated for 600 amps continuous operation in ambient temperatures of -20 degrees Fahrenheit (-30 degrees Celsius) to +140 degrees Fahrenheit (+60 degrees Celsius). Main power switch contacts shall be rated for 600 V AC minimum. The transfer switch supplied shall have a minimum withstand and closing rating when fuse protected of 200,000 amperes. Where the line side overcurrent protection is provided by circuit breakers, the short circuit withstand and closing ratings shall be 42,000 amperes RMS. These RMS symmetrical fault current ratings shall be the rating listed in the UL listing or component recognition procedures for the transfer switch. All withstand tests shall be performed with the overcurrent protective devices located external to the transfer switch.

3.3. CONSTRUCTION

3.3.1. The transfer switch electrical actuator shall have an independent disconnect means to disable the electrical operation during manual switching. Maximum electrical transfer time in either direction shall be 160 milliseconds, exclusive of time delays. Main switch contacts shall be high pressure silver alloy with arc chutes and separate arcing contacts to resist burning and pitting for long life operation.

3.4. CONTROLS

3.4.1. Retransfer the load to the line after normal power restoration. A return to utility timer, adjustable from 1-30 minutes, shall delay this transfer to avoid short term normal power restoration.

3.4.2. The operating power for transfer and retransfer shall be obtained from the source to which the load is being transferred. Controls shall provide an automatic retransfer of the load from emergency to normal if the emergency source fails with the normal source available.

3.4.3. Provide an engine minimum run timer, adjustable from 5-30 minutes, to ensure an adequate engine run period.

3.4.4. Provide manual operating handle to allow for manual transfer. This handle must be mounted inside the lockable enclosure so accessible only by authorized personnel.

3.4.5. Provide a maintenance disconnect switch to prevent load transfer and automatic engine start while performing maintenance. This switch will also be used for manual transfer switch operation.

3.5. MISCELLANEOUS TRANSFER SWITCH EQUIPMENT

4. ADDITIONAL UNIT REQUIREMENTS

4.1. Unit Accessories

4.1.1. The following equipment is to be installed at the engine-generator set manufacturer's facility:

4.1.1.1. 6.8L weather protective enclosure: The engine-generator set shall be factory enclosed in a heavy gauge steel enclosure constructed with 14 gauge corner posts, uprights and headers. The roof shall be

made of aluminum, aid in the runoff of water and include a drip edge. The enclosure shall be coated with electrostatically applied powder paint, baked and finished to manufacturers specifications. The color will be tan-standard. The enclosure is to have large, hinged doors to allow access to the engine, alternator and control panel. The doors must lift off without the use of tools. Each door will have lockable hardware with identical keys. Padlocks do not meet this specification.

The exhaust silencer(s) shall be provided of the size as recommended by the manufacturer and shall be of critical grade. The silencer(s) shall be mounted within the weather protective enclosure for reduced exhaust noise and provide a clean, smooth exterior design. It shall be connected to the engine with a flexible, seamless, stainless steel exhaust connection. A rain cap will terminate the exhaust pipe. All components must be properly sized to assure operation without excessive back pressure when installed.

4.1.1.2. A heavy duty, lead acid 12vdc battery set rated at 700 CCA, BCI group 27F shall be installed by the generator set manufacturer. Provide all intercell and connecting battery cables as required.

4.1.1.3. Provide an automatic dual rate battery charger. The automatic equalizer system shall monitor and limit the charge current to 10 amps. The output voltage is to be determined by the charge current rate. The charger must be protected against a reverse polarity connection. The battery charger is to be factory installed on the generator set. Due to line voltage drop concerns, a battery charger mounted in the transfer switch will be unacceptable.

5. ADDITIONAL PROJECT REQUIREMENTS

5.1. APPLIED STANDARDS

5.1.1. The generator set(s) must be manufactured to the applicable specifications on file with Underwriters Laboratories and the UL 2200 mark must be affixed.

5.1.2. The transfer switch(es) must be UL listed and carry the UL mark for use in emergency systems.

5.2. FACTORY TESTING

5.2.1. Before shipment of the equipment, the engine-generator set shall be tested under rated load for performance and proper functioning of control and interfacing circuits. Tests shall include:

5.2.1.1. Verifying all safety shutdowns are functioning properly.

5.2.1.2. Verify single step load pick-up per NFPA 110-1996, Paragraph 5-13.2.6.

5.2.1.3. Verify transient and voltage dip responses and steady state voltage and speed (frequency) checks.

5.2.2. Before shipment of the transfer switch shall be tested under operating conditions for performance and proper functioning of control and interfacing circuits. Tests shall include:

5.2.2.1. Verify all timing sequences operate properly and are set to factory settings.

5.2.2.2. Verify the transfer mechanism operates properly.

5.2.2.3. Verify all manual operations and indicators are functioning properly.

5.3. OWNER'S MANUALS

5.3.1. Three (3) sets of owner's manuals specific to the product supplied must accompany delivery of the equipment. General operating instruction, preventive maintenance, wiring diagrams, schematics and parts exploded views specific to this model must be included.

5.3.2. Three (3) sets of owner's manuals specific to the product supplied must accompany delivery of the equipment. General operating instruction, preventive maintenance, wiring diagrams, schematics and parts exploded views specific to this model must be included.

5.4. INSTALLATION

5.4.1. Contractor shall install the complete electrical generating system including all fuel connections in accordance with the manufacturer's recommendations as reviewed by the Engineer.

5.5. SERVICE

5.5.1. Supplier of the electric plant and associated items shall have permanent service facilities in this trade area. These facilities shall comprise a permanent force of factory trained service personnel on 24 hour call, experienced in servicing this type of equipment, providing warranty and routine maintenance service to afford the owner maximum protection. Delegation of this service responsibility for any of the equipment listed herein will not be considered fulfillment of these specifications. Service contracts shall also be available.

5.6. WARRANTY

5.6.1. The standby electric generating system components, complete engine-generator and instrumentation panel shall be warranted by the manufacturer against defective materials and factory workmanship for a period of five (5) years. Such defective parts shall be repaired or replaced at the manufacturer's option, free of charge for parts, labor and travel.
The warranty period shall commence when the standby power system is first placed into service. Multiple warranties for individual components (engine, alternator, controls, etc.) will not be acceptable. Satisfactory warranty documents must be provided. Also, in the judgment of the specifying authority, the manufacturer supplying the warranty for the complete system must have the necessary financial strength and technical expertise with all components supplied to provide adequate warranty support.

5.7. STARTUP AND CHECKOUT

5.7.1. The supplier of the electric generating plant and associated items covered herein shall provide factory trained technicians to checkout the completed installation and to perform an initial startup inspection to include:

5.7.1.1. Ensuring the engine starts (both hot and cold) within the specified time.

5.7.1.2. Verification of engine parameters within specification.

5.7.1.3. Verify no load frequency and voltage, adjusting if required.

5.7.1.4. Test all automatic shutdowns of the engine-generator.

5.7.1.5. Perform a load test of the electric plant, ensuring full load frequency and voltage are within specification by using building load.

5.8. SUBMITTALS

5.8.1. Provide three complete sets of Engineering Submittal for approval, prior to production release, showing all components, in addition to the engine and generator. Submittals shall include compliance with these specifications.

5.9. SUBSTITUTIONS

5.9.1. The emergency power system has been designed to the specified manufacturer's electrical and physical characteristics. The equipment sizing, spacing, amounts, electrical wiring, ventilation equipment, fuel and exhaust components have all been sized and designed around Generac Power System's equipment. Should any substitutions be made, the contractor shall bear responsibility for the installation, coordination and operation of the system as well as any engineering and redesign costs which may result from such substitutions. Alternate equipment suppliers shall furnish equipment submittals 14 days prior to bid date for approval to bid. As part of the submittals, the substitute manufacturer shall supply as a minimum engine, alternator and control panel wiring diagrams and schematics. A separate list of all printed circuit boards with part numbers and current pricing must also be included.

GENERAC QT150 OR EQUAL